Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. **(Currently Amended)** A method for performing trial screening with a medical device system, the medical device system providing treatment to a patient with a nervous system disorder, the method comprising:

(a) receiving a first input into at least one processor relating to a location of treatment therapy delivery;

(b) receiving a second input into the at least one processor about a set of therapy parameters that is associated with a treatment therapy;

(c) administering a treatment therapy by the at least one processor in accordance with the first and second inputs; and

(d) receiving a first indication at the at least one processor whether the treatment therapy is ~~acceptable to the patient~~ within a range of safety and a second indication at the at least one processor whether to utilize the first and second inputs, wherein the second indication is determined by evaluating a criterion, wherein the criterion is selected from a group consisting of a detection frequency of the neurological event, a duration of the neurological event, an intensity of the neurological event, and an electrographic spread of the neurological event.

2. **(Currently Amended)** The method of claim 1, further comprising:

(e) if the first indication indicates that the treatment therapy is ~~acceptable~~ within a range of safety and if the second indication indicates that the first and second inputs are to be used, applying the treatment therapy at a future point in time.

3. **(Original)** The method of claim 1, wherein the nervous system disorder is selected from the group consisting of a disorder of a central nervous system, a disorder of a peripheral nervous system, a mental health disorder, and a psychiatric disorder.

4. **(Original)** The method of claim 3, wherein the nervous system disorder is selected from the group consisting of epilepsy, Parkinson's disease, essential tremor, dystonia, multiple sclerosis (MS), anxiety, a mood disorder, a sleep disorder, obesity, and anorexia.

5. **(Original)** The method of claim 1, wherein the treatment therapy is selected from the group consisting of electrical stimulation, magnetic stimulation, drug infusion, and brain temperature control.

6. **(Original)** The method of claim 1, wherein the treatment therapy is provided to a location of a body selected from the group consisting of a brain, a vagal nerve, a spinal cord, and a peripheral nerve.

7. **(Original)** The method of claim 1, wherein the medical device system is selected from the group consisting of an external system, a hybrid system, and an implanted system.

8. **(Previously Presented)** The method of claim 2, further comprising:

(f) in response to step (e), if the treatment therapy is not successful, repeating steps (a)-(d).

9. **(Cancelled).**

10. **(Cancelled).**

11. **(Previously Presented)** The method of claim 1, wherein the evaluating in (d) comprises:

(i) obtaining treatment data during the trial screening session, wherein the treatment therapy is applied;

(ii) obtaining comparison data during a neurological event screening session, wherein the treatment therapy is not applied, and wherein the comparison data correspond to the treatment data;

(iii) deleting a portion of the comparison data corresponding to a blanking interval of the treatment therapy; and

(iv) calculating a difference between the treatment data and the comparison data in order to determine the efficacy of the treatment therapy.

12. **(Currently Amended)** A non-transitory computer-readable medium having computer-executable instructions for performing the steps recited in claim 1.

13. **(Cancelled).**

14. **(Currently Amended)** A non-transitory computer-readable medium having computer-executable instructions for performing the steps recited in claim 11.

15. **(Currently Amended)** A method for performing neurological event screening with a medical device system, the medical device system providing treatment to a patient with a nervous system disorder, the method comprising:

(a) detecting an occurrence of a neurological event by using a set of monitoring elements that obtains a set of neurological signals indicative of the neurological event;

(b) automatically identifying a neurological event focus location that is associated with the neurological event using at least one processor;

(c) reporting information about the neurological event focus location to an output device;

(d) identifying a neurological event spread that is associated with the neurological event using the at least one processor;

(e) reporting the neurological event spread to the output device.

(f) receiving a first input at the at least one processor about a configuration of a treatment delivery unit that is associated with the neurological event screening;

(g) receiving a second input at the at least one processor about a set of therapy parameters that is associated with a treatment therapy;

(h) administering the treatment therapy by the at least one processor in accordance with the first and second inputs;

(i) receiving a first indication at the at least one processor whether the treatment therapy is ~~acceptable to the patient~~ within a range of safety and a second indication at the at least one processor whether to utilize the first and second inputs, wherein the second indication is determined by evaluating a criterion; and

(j) if the first indication indicates that the treatment therapy is ~~acceptable~~ within a range of safety and if the second indication indicates that the first and second inputs are to be used, ~~applying~~ administering the treatment therapy by the at least one processor at a future point in time.

16. **(Currently Amended)** The method of claim 15, further comprising:

(k) providing a recommendation from the at least one processor for the configuration of a treatment delivery unit and the set of therapy parameters to an output device.

17. **(Currently Amended)** A non-transitory computer-readable medium having computer-executable instructions for performing the steps recited in claim 15.

18. **(Currently Amended)** A medical device system for performing neurological event screening, the medical device system providing treatment therapy to a patient with a nervous system disorder, the medical device system comprising:

a set of monitoring elements that obtains a set of neurological signals indicative of a neurological event, wherein each monitoring element receives a neurological signal;

means for providing a first input relating to a location of treatment therapy delivery and a second input relating to a set of therapy parameters associated with the treatment therapy;

an output device; and

a processor that is coupled to the at least one monitoring element and to the output device, the processor configured to:

(a) detect an occurrence of a neurological event with a detection algorithm;

(b) identify at least one neurological event focus location that is associated with the neurological event; ~~and~~

(c) store the neurological event focus location as stored information; and

(d) receive a first indication whether the treatment therapy is within a range of safety and a second indication whether to utilize the first and second inputs, wherein the second indication is determined in accordance with a criterion selected from a group consisting of a detection frequency of the neurological event, a duration of the neurological event, an intensity of the neurological event, and an electrographic spread of the neurological event, whereby if the treatment therapy is within a range of safety and the first and second inputs are to be used, administer the treatment therapy at a future point in time in a closed loop mode or an open loop mode.

19. **(Previously Presented)** The medical device system of claim 18, wherein the processor is configured to use the output in (b) to:

(i) determine a first channel that is associated with an earliest onset of the neurological event, the first channel corresponding to a first neurological signal.

20. **(Currently Amended)** The medical device system of claim 18, wherein the processor is further configured to:

(~~d~~ e) determine whether to perform algorithm adaptation; and

(~~e~~ f) compute threshold and time duration constraint settings that are associated with the detection algorithm, in response to (~~d~~ e).

21. **(Currently Amended)** A medical device system for performing trial screening, the medical device system providing treatment to a patient with a nervous system disorder, the medical device system comprising:

a treatment therapy unit that delivers treatment therapy to the patient;

a set of monitoring elements that obtains a set of neurological signals indicative of a neurological event, wherein each monitoring element receives a neurological signal;

an input device that obtains input information from a user;

an output device that presents output information to the user; and

a processor that is coupled to the treatment therapy unit, the set of monitoring elements, the input device, and the output device, the processor configured to:

(a) receive a first input relating to a location of treatment therapy delivery;

(b) receive a second input about a set of therapy parameters that is associated with a treatment therapy;

(c) administer the treatment therapy in accordance with the first and second inputs;

(d) receive a first indication whether the treatment therapy is ~~acceptable to the patient~~ within a range of safety and a second indication whether to utilize the first and second inputs, wherein the second indication is determined in accordance with a criterion, wherein the criterion is selected from a group consisting of a detection frequency of the neurological event, a duration of the neurological event, an intensity of the neurological event, and an electrographic spread of the neurological event; and

(e) if the first indication indicates that the treatment therapy is ~~acceptable~~ within a range of safety and if the second indication indicates that the first and second inputs are to be used, ~~apply~~ administer the treatment therapy at a future point in time, wherein the treatment therapy is applied in a closed loop mode or an open loop mode.

22. **(Currently Amended)** A method for performing trial screening with a medical device system, the medical device system providing treatment to a patient with a nervous system disorder, the method comprising the steps of:

(a) receiving a first input into at least one processor relating to a location of treatment therapy delivery;

(b) receiving a second input into at least one processor about a set of therapy parameters that is associated with a treatment therapy;

(c) administering the treatment therapy by the at least one processor in accordance with the first and second inputs, wherein the administering of the treatment comprises:

(i) applying the treatment therapy every n^{th} detection cluster;

(d) receiving a first indication at the at least one processor whether the treatment therapy is ~~acceptable to the patient~~ within a range of safety and a second indication at the at least one processor whether to utilize the first and second inputs, wherein the second indication is in accordance with an evaluation of a criterion, the evaluation comprising:

(i) obtaining treatment data by the at least one processor for a first detection cluster, wherein the treatment therapy is applied;

(ii) obtaining comparison data by the at least one processor for a second detection cluster, wherein the treatment therapy is not applied, and wherein the comparison data correspond to the treatment data;

(iii) deleting a portion of the comparison data by the at least one processor corresponding to a blanking interval of the treatment therapy; and

(iv) calculating a difference by the at least one processor between the treatment data and the comparison data in order to determine the efficacy of the treatment therapy; and

(e) if the first indication indicates that the treatment therapy is ~~acceptable~~ within a range of safety and if the second indication indicates that the first and second inputs are to be used, ~~applying~~ administering the treatment therapy at a future point in time.

23. **(Currently Amended)** The method of claim 22, wherein the nth cluster is at least a 2nd ~~clusters~~ cluster, whereby the treatment therapy is not ~~applied~~ administered by the at least one processor to at least every other cluster.